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Editorial

Knowledge Representation and Logic Programming

This issue focuses on several important themes related to research on logic programming and knowledge representation. Papers published in this volume are selected from those presented at LPNMR99—5th International Conference on Logic Programming and Non-Monotonic Reasoning, held in 1999 in El Paso, Texas. These papers are significant extensions of the respective versions presented at the conference.

We open with a paper which introduces to the field of knowledge representation and logic programming under the A-Prolog (also called Answer Set Programming) perspective.

Lifschitz's paper illustrates the application of the declarative programming methodology of A-Prolog to the planning domain. Gottlob, Scarcello and Sideri address some important fixed-parameter complexity questions in artificial intelligence and nonmonotonic reasoning. The paper by Alferes, Pereira, Przymusinska, and Przymusinski deals with the issue of updates in logic programming, introducing a language, called LUPS, for specifying dynamic changes in knowledge bases. Cui and Swift report on the successful application of the preference logic grammars to the problem of data standardization. Marek, Pivkina, and Truszczyński define an "annotated" version of the revision programs of Marek and Truszczyński, allowing one to update the general "T-valuations". The last paper by Simons, Niemelä, and Soinen describes an interesting linguistic extension of A-Prolog, which allows us to express cardinality constraints and weight constraints more naturally; it also illustrates SMOELS which, together with the DLV system, is one of the most popular A-Prolog engines.

The research work presented by Gottlob, Scarcello, and Sideri received the best paper award at LPNMR99.

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